

CLAIMS

1. An organic electroluminescence element comprising:
a pair of electrodes, and
5 a light emitting layer provided between the pair of electrodes, the layer comprising a light-emitting-layer material, a first dopant and a second dopant that satisfy the following relations,
(A) $EV_0 > EV_1$ and $EV_0 > EV_2$
10 (B) $EC_0 \geq EC_2$
(C) $EG_0 > EG_1$ and $EG_0 > EG_2$
wherein EV_0 , EV_1 and EV_2 are the valence electron levels of the light-emitting-layer material, the first dopant and the second dopant, respectively; EC_0 and EC_2 are the conduction
15 levels of the light-emitting-layer material and the second dopant, respectively; and EG_0 , EG_1 and EG_2 are the energy gaps of the light-emitting-layer material, the first dopant and the second dopant, respectively.
- 20 2. An organic electroluminescence element comprising:
a pair of electrodes, and
a light emitting layer provided between the pair of electrodes, the layer comprising a light-emitting-layer material, a first dopant and a second dopant that satisfy
25 the following relations,
(A') $EV_0 > EV_1$ and $EV_0 > EV_2$
(B') $EC_0 \geq EC_1$ and $EC_0 \geq EC_2$
wherein EV_0 , EV_1 and EV_2 are the valence electron levels of the light-emitting-layer material, the first dopant and the
30 second dopant, respectively; and EC_0 , EC_1 and EC_2 are the

conduction levels of the light-emitting-layer material, the first dopant and the second dopant, respectively.

3. An organic electroluminescence element according to
5 claim 2, wherein both the first dopant and the second dopant emit light.

4. An organic electroluminescence element according to
claim 1 or 2, wherein the content of the first dopant
10 and/or the second dopant is 20 wt% or less of entire the light emitting layer.

5. An organic electroluminescence element according to
claim 1 or 2, wherein the first dopant has a hole-
15 injection-aiding property, and/or the second dopant has an electron-injection-aiding property.

6. An organic electroluminescence element according to
claim 1 or 2, wherein the difference between the valence
20 electron level EV0 of the light-emitting-layer material and the valence electron level EV1 of the first dopant is 0.4 eV or less and/or the difference between the conduction level EC0 of the light-emitting-layer material and the conduction level EC2 of the second dopant is 0.4 eV or less.

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7. An organic electroluminescence element according to
claim 1 or 2, wherein the molecular weight of at least one
of the light-emitting-layer material, the first dopant and
the second dopant is from 100 to 1,500.

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8. An organic electroluminescence element according to claim 1 or 2, wherein the glass-transition temperature of the light-emitting-layer material is 100°C or more.

5 9. An organic electroluminescence element according to claim 1 or 2, wherein the first dopant or the second dopant is selected from styrylamine derivatives, condensed aromatic ring compounds and arylamine-substituted condensed aromatic ring compounds.

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10. An organic electroluminescence element according to claim 1 or 2, wherein the light-emitting-layer material comprises a compound having a hole transporting property and/or a compound having an electron transporting property.

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11. An organic electroluminescence element according to claim 1 or 2, wherein the light-emitting-layer material is selected from phenylanthracene derivatives, naphthylanthracene derivatives, diphenylanthracene

20 derivatives, aromatic amine derivatives and metal complexes.

12. An organic electroluminescence element according to claim 11, wherein the phenylanthracene derivatives, the naphthylanthracene derivatives or the diphenylanthracene
25 derivatives contain an alkenyl group.

13. An organic electroluminescence element according to claim 1 or 2, further comprising a hole injecting layer between the anode and the light emitting layer; the hole
30 injecting layer comprising a compound having a

phenylenediamine structure.